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S&H Form: (2/01)

Docket No.: 1344.1080

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re the Application of:

Yuji TOCHIO

Serial No. 10/015,616

Group Art Unit: 2828

Confirmation No. 7298

Filed: December 17, 2001

Examiner: Armando Rodriguez

For: DRIVER CIRCUIT AND DRIVING METHOD FOR SEMICONDUCTOR LASER

Commissioner for Patents
PO Box 1450
Alexandria, VA 22313-1450

Sir:

**PETITION TO WITHDRAW THE HOLDING OF
ABANDONMENT UNDER 37 C.F.R. § 1.181**

Assistant Commissioner for Patents
Washington, D.C. 20231

Sir:

A Notice of Abandonment was mailed December 30, 2003 in connection with the above identified application. For the reasons indicated below, it is submitted that this Notice is improper and it is requested that it be withdrawn.

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The Notice of Abandonment indicates that applicant failed to timely file a proper reply to the September 22, 2003 Advisory Action. In fact, applicants timely filed a Notice of Appeal on October 22, 2003. This Notice of Appeal was filed with a Petition for Extension of Time to extend the time for response into the third month after the response due date (for responding to the April 22, 2003 Office Action) together with the requisite fee of \$840.00 to pay for the second and third month extension fee. It is noted that a request for a one-month extension of time was previously submitted with a Response Under 37 C.F.R. § 1.116 filed August 19, 2003. A copy of the Petition for Extension of Time and Notice of Appeal filed October 22, 2003 are attached as Exhibit A together with a copy of the stamped postcard receipt dated October 22, 2003. A copy of the Response filed August 19, 2003 together including the Petition for a one-month extension of time is attached as Exhibit B.

Serial No. 10/015,616

It appears from the PAIR Report that there is no indication that the Notice of Appeal and the Petition for a two-month extension of time were entered into the PTO records. A copy of the PAIR Report is attached as Exhibit C.

By virtue of filing the Notice of Appeal and proper extension fees on October 22, 2003, the time for taking further action was extended to December 22, 2003. Further, applicant submitted a Request for Continued Examination together with an Amendment and the appropriate fee on December 22, 2003. Copies of the RCE, Amendment, and postcard receipt reflecting a filing date of December 22, 2003 are attached as Exhibit D.

Based on the above facts, it is respectfully submitted that the applicants timely responded to the April 22, 2003 Office Action and the September 22, 2003 Advisory Action. Accordingly, withdrawal of the Notice of Abandonment and continuation of prosecution based on the RCE are respectfully requested. It is submitted that no petition fees should be due in connection with the filing of this Petition. However, if it is deemed that a petition fee is necessary, authorization is granted to charge the appropriate fee to deposit account number 19-3935.

Respectfully submitted,

STAAS & HALSEY LLP

Date: 1-13-04

By: 

John C. Garvey
Registration No. 28,607

1201 New York Ave, N.W., Suite 700
Washington, D.C. 20005
Telephone: (202) 434-1500
Facsimile: (202) 434-1501

Please Date Stamp and return

Notice of Appeal, Petition for Extension of Time, Check for \$1170.00 ✓

APPLICANT(S): Yuji TOCHIO

SERIAL NO: 10/015,616

CONFIRMATION NO.7298

TITLE: DRIVER CIRCUIT AND DRIVING METHOD FOR SEMICONDUCTOR LASER

FILING DATE: December 17, 2001

DOCKET NO: 1344.1080/JCG:rk

DUE DATE: October 22, 2003



16



Attorney Docket No. 1344.1080

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Patent Application of:

Yuji TOCHIO

Application No.: 10/015,616

Group Art Unit: 2828

Confirmation No.: 7298

Filed: December 17, 2001

Examiner: Armando Rodriguez

For: DRIVER CIRCUIT AND DRIVING METHOD FOR SEMICONDUCTOR LASER

PETITION AND FEE FOR EXTENSION OF TIME

Commissioner for Patents
PO Box 1450
Alexandria, VA 22313-1450

Sir:

Pursuant to Rule 136(a), Applicant(s) hereby petition(s) the Commissioner for an extension of time into the third month after the response due date, i.e., until October 22, 2003, for responding to the Office Action mailed April 22, 2003.

A check for the appropriate fee set by 37 CFR §1.17 of \$840 is attached hereto for this Petition. (A one-month extension of time was requested with the Response filed August 19, 2003.)

The Commissioner is authorized to charge any Petition for Extension of Time fee for underpayment or credit any overpayment to Deposit Account No. 19-3935.

Respectfully submitted,

STAAS & HALSEY LLP

Date:

10-22-03

By:

John C. Garvey
John C. Garvey
Registration No. 28,607

1201 New York Ave, N.W., Suite 700
Washington, D.C. 20005
Telephone: (202) 434-1500
Facsimile: (202) 434-1501

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S&H Form: (10/03)
Attorney Docket No. 1344.1080

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Patent Application of:

Yuji TOCHIO

Application No.: 10/015,616

Group Art Unit: 2828

Filed: December 17, 2001

Examiner: Armando Rodriguez

For: DRIVER CIRCUIT AND DRIVING METHOD FOR SEMICONDUCTOR LASER

**NOTICE OF APPEAL FROM THE PRIMARY EXAMINER
TO THE BOARD OF PATENT APPEALS AND INTERFERENCES**

Commissioner for Patents
PO Box 1450
Alexandria, VA 22313-1450

Attention: After Final

Sir:

Applicant hereby appeals to the Board from the decision of the Primary Examiner mailed April 22, 2003 finally rejecting claim 14.

The items checked below are appropriate:

1. EXTENSION OF TIME PETITION AND FEE

X Attached is a petition for a three-month extension of time for reply to the final rejection. (A one-month extension was requested with the Response filed August 19, 2003.)

\$ 840.00

2. APPEAL FEE

X Other than a small entity

330.00

TOTAL FEE \$ 1170.00

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3. PAYMENT

- ☒ Check attached for the total fee of \$ 1170.00.
- ☒ Charge Account 19-3935 for any fee deficiency.

Respectfully submitted,

STAAS & HALSEY LLP

Dated: 10-22-03

By: 

John C. Garvey
Registration No. 28,607

1201 New York Ave, N.W., Suite 700
Washington, D.C. 20005
Telephone: (202) 434-1500
Facsimile: (202) 434-1501



S&H Form: (01/03)

REPLY/AMENDMENT FEE TRANSMITTAL		Attorney Dock # No.	1344.1080		
		Application Number	10/015,616		
		Filing Date	December 17, 2001		
		First Named Inventor	Yuji TOCHIO		
		Group Art Unit	2828		
AMOUNT ENCLOSED	110.00	Examiner Name	Armando Rodriguez		
FEE CALCULATION (fees effective 01/01/03)					
CLAIMS AS AMENDED	Claims Remaining After Amendment	Highest Number Previously Paid For	Number Extra	Rate	Calculations
TOTAL CLAIMS	14	- 20 =	0	X \$ 18.00 =	\$ 0.00
INDEPENDENT CLAIMS	3	- 3 =	0	X \$ 84.00 =	0.00
Since an Official Action set an <u>original</u> due date of <u>July 22, 2003</u> , petition is hereby made for an extension to cover the date this reply is filed for which the requisite fee is enclosed (1 month (\$110); 2 months (\$410); 3 months (\$930); 4 months (\$1,450); 5 months (\$1,970)):					110.00
If Notice of Appeal is enclosed, add (\$320)					0.00
If Statutory Disclaimer under Rule 20(d) is enclosed, add fee (\$110)					0.00
Total of above Calculations =					\$ 110.00
Reduction by 50% for filing by small entity (37 CFR 1.9, 1.27 & 1.28)					
TOTAL FEES DUE =					\$ 110.00
(1) If entry (1) is less than entry (2), entry (3) is "0". (2) If entry (2) is less than 20, change entry (2) to "20". (4) If entry (4) is less than entry (5), entry (6) is "0". (5) If entry (5) is less than 3, change entry (5) to "3".					
METHOD OF PAYMENT					
<input type="checkbox"/> Check enclosed as payment.					
<input checked="" type="checkbox"/> Charge "TOTAL FEES DUE" to the Deposit Account No. below.					
<input type="checkbox"/> No payment is enclosed and no charges to the Deposit Account are authorized at this time (unless specifically required to obtain a filing date).					
GENERAL AUTHORIZATION					
<input checked="" type="checkbox"/> If the above-noted "AMOUNT ENCLOSED" is not correct, the Commissioner is hereby authorized to credit any overpayment or charge any additional fees necessary to: Deposit Account No. <u>19-3935</u> Deposit Account Name <u>STAAS & HALSEY LLP</u>					
<input checked="" type="checkbox"/> The Commissioner is also authorized to credit any overpayments or charge any additional fees required under 37 CFR 1.16 (filing fees) or 37 CFR 1.17 (processing fees) during the prosecution of this application, including any related application(s) claiming benefit hereof pursuant to 35 USC § 120 (e.g., continuations/divisionals/CIPs under 37 CFR 1.53(b) and/or continuations/divisionals/CPAs under 37 CFR 1.53(d)) to maintain pendency hereof or of any such related application.					
SUBMITTED BY: STAAS & HALSEY LLP					
Typed Name	John C. Garvey		Reg. No.	28,607	
Signature			Date	8-19-03	

CERTIFICATE OF FACSIMILE TRANSMISSION
©2001 Staas & Halsey LLP
I hereby certify that this correspondence is being transmitted via facsimile to Commissioner for Patents
PO Box 1450 Alexandria, VA 22313-1450
on 8/19, 2003
STAAS & HALSEY Regina Knight
BY: 8/19/03



RESPONSE UNDER 37 CFR 1.116
EXPEDITED PROCEDURE
EXAMINING GROUP 2828
Docket No.: 1344.1080

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re the Application of:

Yuji TOCHIO

Serial No. 10/015,616

Group Art Unit: 2828

Confirmation No. 7298

Filed: December 17, 2001

Examiner: Armando Rodriguez

For: DRIVER CIRCUIT AND DRIVING METHOD FOR SEMICONDUCTOR LASER

RESPONSE UNDER 37 C.F.R. § 1.116

Commissioner for Patents
PO Box 1450
Alexandria, VA 22313-1450

Attention: **BOX AF**

Sir:

This is in response to the Office Action mailed April 22, 2003, and having a period for response set to expire on July 22, 2003. A Petition for a one-month extension of time, together with the requisite fee for same, is submitted herewith, thereby extending the period for response to August 22, 2003. The following remarks are respectfully submitted.

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CERTIFICATE OF FACSIMILE TRANSMISSION
I hereby certify that this correspondence is being transmitted via facsimile to: Commissioner for Patents, PO Box 1450 Alexandria, VA 22313-1450 on 8/19/03, 2003
By: STAAS & HALSEY
Date: 8/19/03

In the Office Action the Examiner noted that claims 1-14 were pending in the application and the Examiner allowed all of the claims except for claim 14. Thus, claims 1-14 are pending in the application. The Examiner's rejection is traversed below.

Rejection Under 35 U.S.C. §102

On page 2 of the Office Action the Examiner rejected claim 14 under 35 U.S.C. §102 as anticipated by newly cited U.S. Patent 4,339,822 to Kolodzey. In the rejection, the Examiner relied upon Figure 1 and columns 2 and 3 of Kolodzey. On page 2 of the Office Action the Examiner took the position that the semiconductor laser diode 16 in Figure 1 receives a pre-biased current which is denoted as I_{BIAS} , a bias current established by the level shifting means, and a modulation current established by the means for converting the increased voltage to a modulating current (denoted by reference number 15).

U.S. Patent 4,339,822 to Kolodzey

Figure 1 of Kolodzey depicts a portion of a laser digital modulator circuit including a logic level input 10 which provides a first control signal. An ECL gate or TTL to ECL translator integrated circuit 11 is described as a means for receiving the first control signal and generating a second control signal therefrom (column 2, lines 23-28). Circuit 12 is described as a means for increasing the voltage to a sufficient level and circuit 15 is described as a means for converting the increased voltage to a modulating current in order to modulate diode laser 16 (column 2, lines 59-66).

Claim 14 Patentably Distinguishes Over the Prior Art

Claim 14 is directed to a method for driving a semiconductor laser which comprises:

- supplying a first bias current for driving the semiconductor laser at least at a time of non-output of data, to drive the semiconductor laser in a spontaneous emission area;

- supplying a second bias current to the semiconductor laser prior to data transmission by delaying a data signal; and

supplying a pulse current to the semiconductor laser a predetermined time after commencement of supplying the second bias current.

Applicant has reviewed the portions of columns 2 and 3 referenced by the Examiner and is unable to locate any teaching of supplying a first bias current "at least at a time of non-output of data, to drive the semiconductor laser in a spontaneous emission area". In addition, applicant is unable to locate any teaching of supplying a second bias current "prior to data transmission by delaying a data signal." Therefore, it is submitted that Kolodzey does not teach or suggest these claimed features of the present invention.

In summary, it is submitted that Kolodzey does not teach or suggest:

supplying a first bias current for driving the semiconductor laser at least at a time of non-output of data, to drive the semiconductor laser in a spontaneous emission area;

supplying a second bias current to the semiconductor laser prior to data transmission by delaying a data signal;

Allowable Subject Matter

On pages 3 and 4 of the Office Action a Statement of Reasons for Allowance is provided. The Statement includes paraphrasing of certain portions of claims 1 and 13. In view of the fact that the paraphrasing is not consistent with the claim language and contains some errors in terminology, it is submitted that the claims themselves should be relied on to construe the features of the invention.

Summary

It is submitted that all claims in the application are now in condition for allowance.
Reconsideration of the claims and an early notice of allowance are earnestly solicited.

Respectfully submitted,

STAAS & HALSEY LLP

Date: 8-19-03

By: 

John C. Garvey

Registration No. 28,607

1201 New York Ave, N.W., Suite 700

Washington, D.C. 20005

Telephone: (202) 434-1500

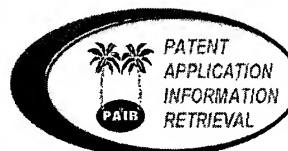
Facsimile: (202) 434-1501



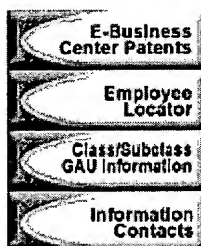
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PATENT APPLICATION INFORMATION RETRIEVAL



Other Links



Search results for application number: 10/015,616			
Application Number:	10/015,616	Customer Number:	21171
Filing or 371(c) Date:	12-17-2001	Status:	Abandoned -- Failure to Respond to an Office A
Application Type:	Utility	Status Date:	12-29-2003
Examiner Name:	RODRIGUEZ, ARMANDO	Location:	FILE REPOSITORY (FRANCONIA)
Group Art Unit:	2828	Location Date:	01-02-2004
Confirmation Number:	7298	Earliest Publication No:	US 2002-0075919 A1
Attorney Docket Number:	1344.1080	Earliest Publication Date:	06-20-2002
Class/ Sub-Class:	372/038.02	Patent Number:	-
First Named Inventor:	Yuji Tochio, Kawasaki, (JP)	Issue Date of Patent:	-
Title Of Invention:	Driver circuit and driving method for semiconductor laser		

Foreign Priority

Continuity Data

File Contents History

Number	Date	Contents Description
31	12-30-2003	Mail Abandonment for Failure to Respond to Office Action
30	12-29-2003	Abandonment for Failure to Respond to Office Action
29	12-22-2003	Workflow - Request for RCE - Begin
28	09-22-2003	Mail Advisory Action (PTOL - 303)
27	09-17-2003	Advisory Action (PTOL-303)
26	09-05-2003	Date Forwarded to Examiner
25	08-21-2003	Amendment after Final Rejection
24	08-21-2003	Request for Extension of Time - Granted
23	04-22-2003	Mail Final Rejection (PTOL - 326)
22	04-21-2003	Final Rejection
21	03-26-2003	Date Forwarded to Examiner
20	03-18-2003	Amendment after Final Rejection
19	12-18-2002	Mail Final Rejection (PTOL - 326)
18	12-16-2002	Final Rejection
17	09-25-2002	Date Forwarded to Examiner
16	09-11-2002	Response after Non-Final Action
15	09-11-2002	Incoming Letter Pertaining to the Drawings
14	08-25-2002	Receipt of all Acknowledgment Letters
13	06-05-2002	Mail Non-Final Rejection

12	06-03-2002	Non-Final Rejection
11	05-21-2002	Case Docketed to Examiner in GAU
10	12-17-2001	Request for Foreign Priority (Priority Papers May Be Included)
9	12-17-2001	Information Disclosure Statement (IDS) Filed
8	05-09-2002	Case Docketed to Examiner in GAU
7	02-28-2002	Application Dispatched from OIPE
6	02-27-2002	Application Is Now Complete
5	02-20-2002	Referred by L&R for Third-Level Security Review. Agency Refe Generated
4	02-19-2002	IFW Scan & PACR Auto Security Review
3	01-08-2002	IFW Scan & PACR Auto Security Review
2	12-17-2001	Initial Exam Team nn

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Please Date Stamp and return

RCE, Amendment, Reply Transmittal, Check for \$856.00

APPLICANT(S): Yuji TOCHIO

SERIAL NO: 10/015,616

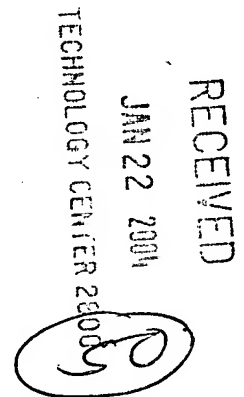
CONFIRMATION NO.7298

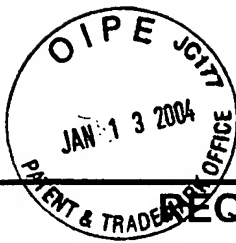
TITLE: DRIVER CIRCUIT AND DRIVING METHOD FOR SEMICONDUCTOR LASER

FILING DATE: December 17, 2001

DOCKET NO: 1344.1080/JCG:rk/lcw

DUE DATE: December 22, 2003



**REQUEST FOR CONTINUED EXAMINATION (RCE)
TRANSMITTAL****(INCLUDING FILING FEE AND/OR PETITION FOR
EXTENSION OF TIME FEE)**

*Subsection (b) of 35 U.S.C. §132, effective May 29, 2000
provides for continued examination of a utility or plant application
filed on or after June 8, 1995.
See The American Inventors Protection Act of 1999 (AIPA)*

**To: Commissioner for Patents
Box RCE
PO Box 1450
Alexandria, VA 22313-1450**

Attorney Docket No.:1344.1080

**First Named
Inventor** Yuji TOCHIO

Application No. 10/015,616

Group Art Unit 2828

Filing Date December 17, 2001

Examiner Armando Rodriguez

CPA Filing Date

Confirmation No 7298

Title of Invention

**DRIVER CIRCUIT AND DRIVING METHOD FOR SEMICONDUCTOR
LASER**

This is a Request for Continued Examination (RCE) under 37 C.F.R. §1.114 of the above-identified application.

NOTE: 37 C.F.R. §1.114 is effective on May 29, 2000. If the above-identified application was filed prior to May 29, 2000, applicant may wish to consider filing a continued prosecution application (CPA) under 37 C.F.R. §1.53(d) (PTO/SB/29) instead of a RCE to be eligible for the patent term adjustment provisions of the AIPA. See Changes to Application Examination and Provisional Application Practice, Interim Rule, 65 Fed. Reg. 14865 (March 20, 2000), 1233 Off. Gaz. Pat. Office 47 (Apr. 11, 2000), which established RCE practice.

1.

Submission required under 37 C.F.R. §1.114 (Box a or b must be completed)

a. ☐ Previously submitted

i. ☐ Consider the amendment(s)/reply under 37 C.F.R. § 1.116 previously filed on ____
(Any unentered amendment(s) referred to above will be entered).

ii. ☐ Consider the arguments in the Appeal Brief or Reply Brief previously filed on ____

iii. ☐ Other

b. ☒ Enclosed

i. ☒ Amendment/Reply

ii. ☐ Affidavit(s)/Declaration(s)

iii. ☐ Information Disclosure Statement (IDS)

iv. ☐ Other


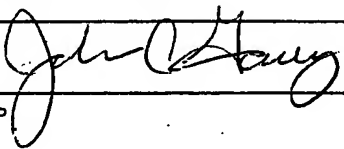
2.

Miscellaneous

a. ☐ Suspension of action on the above-identified application is requested under 37 C.F.R. §103(c) for a period of _____ months. (Period of suspension shall not exceed 3 months; Fee under 37 C.F.R. §1.17(i) required).

b. ☐ Other

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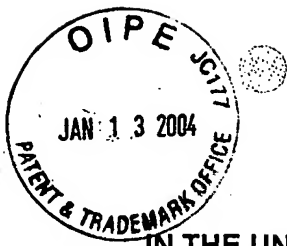
		BASIC FEE		\$	770.00
Since an Official Action set an original due date of <u>December 22, 2003</u> , petition is hereby made for an extension of time to cover the date this RCE is filed, for which the requisite fee is enclosed (1 month (\$110); 2 months (\$420); 3 months (\$950); 4 months (\$1,480); 5 months (\$2,010)):					0.00
Suspension Fee (\$130.00)					0.00
Total of above Calculations =				\$	770.00
Reduction by 50% for filing by small entity (Note 37 C.F.R. 1.9, 1.27, 1.28).					
TOTAL FEES DUE =				\$	770.00
4. <input type="checkbox"/> Small entity status: a. <input type="checkbox"/> Verified Statement Claiming Small Entity Status. b. <input type="checkbox"/> A Verified Statement Claiming Small Entity Status was previously filed and such status is still proper and desired. c. <input type="checkbox"/> is no longer claimed. 5. <input type="checkbox"/> Other:					
6. METHOD OF PAYMENT					
<input checked="" type="checkbox"/> A check in the amount of \$ <u>770.00</u> is enclosed. <input type="checkbox"/> Charge "TOTAL FEES DUE" to Deposit Account No. 19-3935. (A duplicate copy of this form is enclosed.)					
7. GENERAL AUTHORIZATION					
<input checked="" type="checkbox"/> The Commissioner is hereby authorized to credit any overpayment or charge any additional fees under 37 C.F.R. 1.16 (filing fees) or 37 C.F.R. 1.17 (processing fees) during the prosecution of this application and of any related application(s) claiming benefit hereof pursuant to 35 U.S.C. §120 to maintain pendency hereof and of any such related application to: Deposit Account No. 19-3935.					
8. CORRESPONDENCE ADDRESS					
STAAS & HALSEY LLP  21171 PATENT TRADEMARK OFFICE					
9. SIGNATURE OF ATTORNEY OR AGENT REQUIRED					
NAME		John C. Garvey		REGISTRATION NO.	28,607
SIGNATURE				DATE	12-22-03



S&H Form: (10/03)

REPLY/AMENDMENT FEE TRANSMITTAL		Attorney Docket No.	1344.1080		
		Application Number	10/015,616		
		Filing Date	December 17, 2001		
		First Named Inventor	Yuji TOCHIO		
		Group Art Unit	2828		
AMOUNT ENCLOSED	86.00	Examiner Name	Armando Rodriguez		
FEE CALCULATION (fees effective 10/01/03)					
CLAIMS AS AMENDED	Claims Remaining After Amendment	Highest Number Previously Paid For	Number Extra	Rate	Calculations
TOTAL CLAIMS	15	- 20 =	0	X \$ 18.00 =	\$ 0.00
INDEPENDENT CLAIMS	4	- 3 =	1	X \$ 86.00 =	86.00
Since an Official Action set an <u>original</u> due date of <u>December 22, 2003</u> , petition is hereby made for an extension to cover the date this reply is filed for which the requisite fee is enclosed (1 month (\$110); 2 months (\$420); 3 months (\$950); 4 months (\$1,480); 5 months (\$2,010)):					
If Notice of Appeal is enclosed, add (\$330.00)					
If Statutory Disclaimer under Rule 20(d) is enclosed, add fee (\$110.00)					
Information Disclosure Statement (Rule 1.17(p)) (\$180.00)					
Total of above Calculations =					\$ 86.00
Reduction by 50% for filing by small entity (37 CFR 1.9, 1.27 & 1.28)					
TOTAL FEES DUE =					\$ 86.00
(1) If entry (1) is less than entry (2), entry (3) is "0".					
(2) If entry (2) is less than 20, change entry (2) to "20".					
(4) If entry (4) is less than entry (5), entry (6) is "0".					
(5) If entry (5) is less than 3, change entry (5) to "3".					
METHOD OF PAYMENT					
<input checked="" type="checkbox"/> Check enclosed as payment.					
<input type="checkbox"/> Charge "TOTAL FEES DUE" to the Deposit Account No. below.					
<input type="checkbox"/> No payment is enclosed and no charges to the Deposit Account are authorized at this time (unless specifically required to obtain a filing date).					
GENERAL AUTHORIZATION					
<input checked="" type="checkbox"/> If the above-noted "AMOUNT ENCLOSED" is not correct, the Commissioner is hereby authorized to credit any overpayment or charge any additional fees necessary to:					
Deposit Account No.		19-3935			
Deposit Account Name		STAAS & HALSEY LLP			
<input checked="" type="checkbox"/> The Commissioner is also authorized to credit any overpayments or charge any additional fees required under 37 CFR 1.16 (filing fees) or 37 CFR 1.17 (processing fees) during the prosecution of this application, including any related application(s) claiming benefit hereof pursuant to 35 USC § 120 (e.g., continuations/divisionals/CIPs under 37 CFR 1.53(b) and/or continuations/divisionals/CPAs under 37 CFR 1.53(d)) to maintain pendency hereof or of any such related application.					
SUBMITTED BY: STAAS & HALSEY LLP					
Typed Name	John C. Garvey		Reg. No.	28,607	
Signature			Date	12-22-03	

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Docket No.: 1344.1080

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re the Application of:

Yuji TOCHIO

Serial No. 10/015,616

Group Art Unit: 2828

Confirmation No. 7298

Filed: December 17, 2001

Examiner: Armando Rodriguez

For: DRIVER CIRCUIT AND DRIVING METHOD FOR SEMICONDUCTOR LASER

AMENDMENT

Commissioner for Patents
PO Box 1450
Alexandria, VA 22313-1450

Sir:

In the subject application, a Notice of Appeal was filed November 22, 2003 in response to the April 22, 2003 Final Office Action. Applicant is submitting herewith an RCE together with this Amendment.

The following amendments and remarks are respectfully submitted.

RECEIVED
JAN 22 2004
TECHNOLOGY CENTER 2800

IN THE CLAIMS:

The text of all pending claims, (including withdrawn claims) is set forth below. Cancelled and not entered claims are indicated with claim number and status only. The claims as listed below show added text with underlining and deleted text with ~~striketrough~~. The status of each claim is indicated with one of (original), (currently amended), (cancelled), (withdrawn), (new), (previously presented), or (not entered).

Please ADD new claim 15 in accordance with the following:

1. (PREVIOUSLY AMENDED) A driver circuit for driving a semiconductor laser in accordance with a data signal including data generated in bursts, comprising:

first bias current supply means for generating, at least at a time of non-output of data, a first bias current for driving the semiconductor laser in a predetermined area within a spontaneous emission area, to supply the first bias current to the semiconductor laser;

signal processing means for generating a pulse current control signal in which the data signal is delayed, using only the data signal, and generating a second bias current control signal that rises more rapidly by a predetermined time than the rise of the burst data included in the pulse current control signal;

pulse current supply means for generating a pulse current in accordance with the pulse current control signal generated in said signal processing means, to supply the pulse current to the semiconductor laser; and

second bias current supply means for generating a second bias current for driving the semiconductor laser in a predetermined area within the spontaneous emission area in accordance with the second bias current control signal generated in said signal processing means, to supply the second bias current to the semiconductor laser.

2. (PREVIOUSLY AMENDED) A driver circuit according to claim 1, wherein said first bias current supply means includes a temperature compensation section for changing the first bias current corresponding to characteristic changes in the semiconductor laser due to temperature changes.

3. (PREVIOUSLY AMENDED) A driver circuit according to claim 2, wherein said temperature compensation section has a thermistor with a resistance value which is changed with temperature fluctuations.

4. (PREVIOUSLY AMENDED) A driver circuit according to claim 1, further comprising:
optical output detection means for detecting the power of light output from the
semiconductor laser; and

first bias current control means for feedback controlling an operation of said first bias
current supply means so that the optical output power from the semiconductor laser at the time
of non-output of data becomes a constant level, based on a detection result of said optical
output detection means.

5. (PREVIOUSLY AMENDED) A driver circuit according to claim 1, wherein
said second bias current supply means has a differential amplification type circuit
structure.

6. (PREVIOUSLY AMENDED) A driver circuit according to claim 1, wherein
said second bias current supply means includes a temperature compensation section for
changing the second bias current corresponding to characteristic changes in the semiconductor
laser due to temperature changes.

7. (PREVIOUSLY AMENDED) A driver circuit according to claim 6, wherein
said temperature compensation section has a thermistor with a resistance value which is
changed with temperature fluctuations.

8. (PREVIOUSLY AMENDED) A driver circuit according to claim 1, wherein
said signal processing means generates said second bias current control signal which
rises more rapidly, by a time corresponding to a predetermined bit number or a predetermined
byte number, than the rise of burst data included in said pulse current control signal.

9. (PREVIOUSLY AMENDED) A driver circuit according to claim 8, wherein
said signal processing means generates said second bias current control signal which is
maintained at a high level over at least a predetermined period of the beginning side of the burst
data generation period.

10. (PREVIOUSLY AMENDED) A driver circuit according to claim 1, wherein
said first bias current supply means has a circuit structure the same as for said second

bias current control means, and generates said first bias current in accordance with a signal obtained by inverting the second bias current control signal generated by said signal processing section.

11. (ONCE AMENDED) A driver circuit according to claim 1, wherein
when a rise time of the second bias current is shorter than a time corresponding to 1 bit length of burst data,

said signal processing means comprises a delay section for delaying the data signal by a predetermined time, and a logical sum operation section for obtaining a logical sum of an output signal from said delay section and the data signal, and outputs the output signal from said delay section as the pulse current control signal, and outputs an output signal from said logical sum operation section as the second bias current control signal.

12. (ORIGINAL) A driver circuit according to claim 1, wherein
when the rise time of the second bias current is shorter than a time corresponding to 1 bit length of burst data, and also the second bias current is sufficiently larger than the pulse current,

said signal processing section comprises a delay section for delaying the data signal by a predetermined time, and outputs an output signal from said delay section as the pulse current control signal, and outputs the data signal as the second bias current control signal.

13. (PREVIOUSLY AMENDED) A method for driving a semiconductor laser in accordance with data signals including data generated in bursts, comprising :

generating, at least at a time of non-output of data, a first bias current for driving the semiconductor laser in a predetermined area within a spontaneous emission area, to supply the first bias current to the semiconductor laser;

generating a pulse current control signal in which the data signal is delayed, using only the data signal, and generating a second bias current control signal that rises more rapidly by a predetermined time than the rise of burst data included in the pulse current control signal;

generating a pulse current in accordance with the pulse current control signal, to supply the pulse current to the semiconductor laser; and

generating a second bias current for driving the semiconductor laser in a predetermined area within the spontaneous emission area in accordance with the second bias current control signal, to supply the second bias current to the semiconductor laser.

14. (PREVIOUSLY PRESENTED) A method for driving a semiconductor laser in accordance with data signals, including data generated in bursts, comprising:

supplying a first bias current for driving the semiconductor laser at least at a time of non-output of data, to drive the semiconductor laser in a spontaneous emission area;

supplying a second bias current to the semiconductor laser prior to data transmission by delaying a data signal; and

supplying a pulse current to the semiconductor laser a predetermined time after commencement of supplying the second bias current.

15. (NEW) A method for driving a semiconductor laser in accordance with data signals, comprising:

generating data in bursts;

supplying a first bias current for driving the semiconductor laser at least at a time of non-output of data;

supplying a second bias current for driving the semiconductor laser in a predetermined area within a spontaneous emission area in accordance with a second bias current control signal to supply the second bias current to the semiconductor laser; and

supplying a pulse current to the semiconductor laser a predetermined time after commencement of supplying the second bias current.

REMARKS

In the Office Action mailed April 22, 2003, the Examiner noted that claims 1-14 were pending in the application and the Examiner allowed all of the claims except for claim 14. By this amendment, new claim 15 has been added. Thus, claims 1-15 are pending in the application. The Examiner's rejection is traversed below.

The Interview

Appreciation is expressed to Examiner Rodriguez and Examiner Ip for the interview which was granted on October 27, 2003. During this interview, the undersigned discussed the rejection of claim 14 over the prior art with the Examiners, but no resolution of the rejection was achieved. The substance of the arguments presented at the interview, as well as additional comments and arguments are presented below.

Rejection Under 35 U.S.C. §102

On page 2 of the Office Action the Examiner rejected claim 14 under 35 U.S.C. §102 as anticipated by newly cited U.S. Patent 4,339,822 to Kolodzey. In the rejection, the Examiner relied upon Figure 1 and columns 2 and 3 of Kolodzey. On page 2 of the Office Action the Examiner took the position that the semiconductor laser diode 16 in Figure 1 receives a pre-biased current which is denoted as I_{BIAS} , a bias current established by the level shifting means, and a modulation current established by the means for converting the increased voltage to a modulating current (denoted by reference number 15).

U.S. Patent 4,339,822 to Kolodzey

Figure 1 of Kolodzey depicts a portion of a laser digital modulator circuit including a logic level input 10 which provides a first control signal. An ECL gate or TTL to ECL translator integrated circuit 11 is described as a means for receiving the first control signal and generating a second control signal therefrom (column 2, lines 23-28). Circuit 12 is described as a means for increasing the voltage to a sufficient level and circuit 15 is described as a means for converting the increased voltage to a modulating current in order to modulate diode laser 16 (column 2, lines 59-66).

Claim 14 Patentably Distinguishes Over the Prior Art

Claim 14 is directed to a method for driving a semiconductor laser which comprises:

supplying a first bias current for driving the semiconductor laser at least at a time of non-output of data, to drive the semiconductor laser in a spontaneous emission area;

supplying a second bias current to the semiconductor laser prior to data transmission by delaying a data signal; and

supplying a pulse current to the semiconductor laser a predetermined time after commencement of supplying the second bias current.

Applicant has reviewed the portions of columns 2 and 3 referenced by the Examiner and is unable to locate any teaching of supplying a first bias current "at least at a time of non-output of data, to drive the semiconductor laser in a spontaneous emission area". At the interview, the Examiner took the position that "driving a laser in a spontaneous emission area" is standard practice in the art. It is respectfully requested that the Examiner supply prior art disclosing this feature.

In addition, applicant is unable to locate any teaching of supplying a second bias current "prior to data transmission by delaying a data signal." At the interview, the Examiners took the position that means 12 in figure 1 of Kolodzey increases the voltage to a sufficient level to act to supply a bias current to the semiconductor laser 16 via the transistor 17 and the means 15. The Examiners stated that the data signal is delayed by means 12 while the bias signal is produced, in that the data signal is then provided to means 15 which produces a modulating current. Applicant has reviewed the Kolodzey specification, and particularly the portions pointed out by the Examiners, but have been unable to locate any discussion of a data delay as suggested by the Examiners.

Therefore, it is submitted that Kolodzey does not teach or suggest the above-described features of the present invention.

In summary, it is submitted that Kolodzey does not teach or suggest:

supplying a first bias current for driving the semiconductor laser at

least at a time of non-output of data, to drive the semiconductor laser in a spontaneous emission area;

supplying a second bias current to the semiconductor laser prior to data transmission by delaying a data signal;

Therefore, it is submitted that claim 14 patentably distinguishes over the prior art.

New Claim 15

At the interview, the Examiners commented that they viewed the features of the last paragraph of claim 13 to be particularly significant. Accordingly, Applicant has added a new claim 15 which recites some of the features of claim 14, but which also recites the features of the last paragraph of claim 13. Therefore, it is submitted that claim 15 patentably distinguishes over the prior art.

Allowable Subject Matter

On pages 3 and 4 of the Office Action a Statement of Reasons for Allowance is provided. The Statement includes paraphrasing of certain portions of claims 1 and 13. In view of the fact that the paraphrasing is not consistent with the claim language and contains some errors in terminology, it is submitted that the claims themselves should be relied on to construe the features of the invention.

Summary

It is submitted that all claims in the application are now in condition for allowance.
Reconsideration of the claims and an early notice of allowance are earnestly solicited.

Respectfully submitted,

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